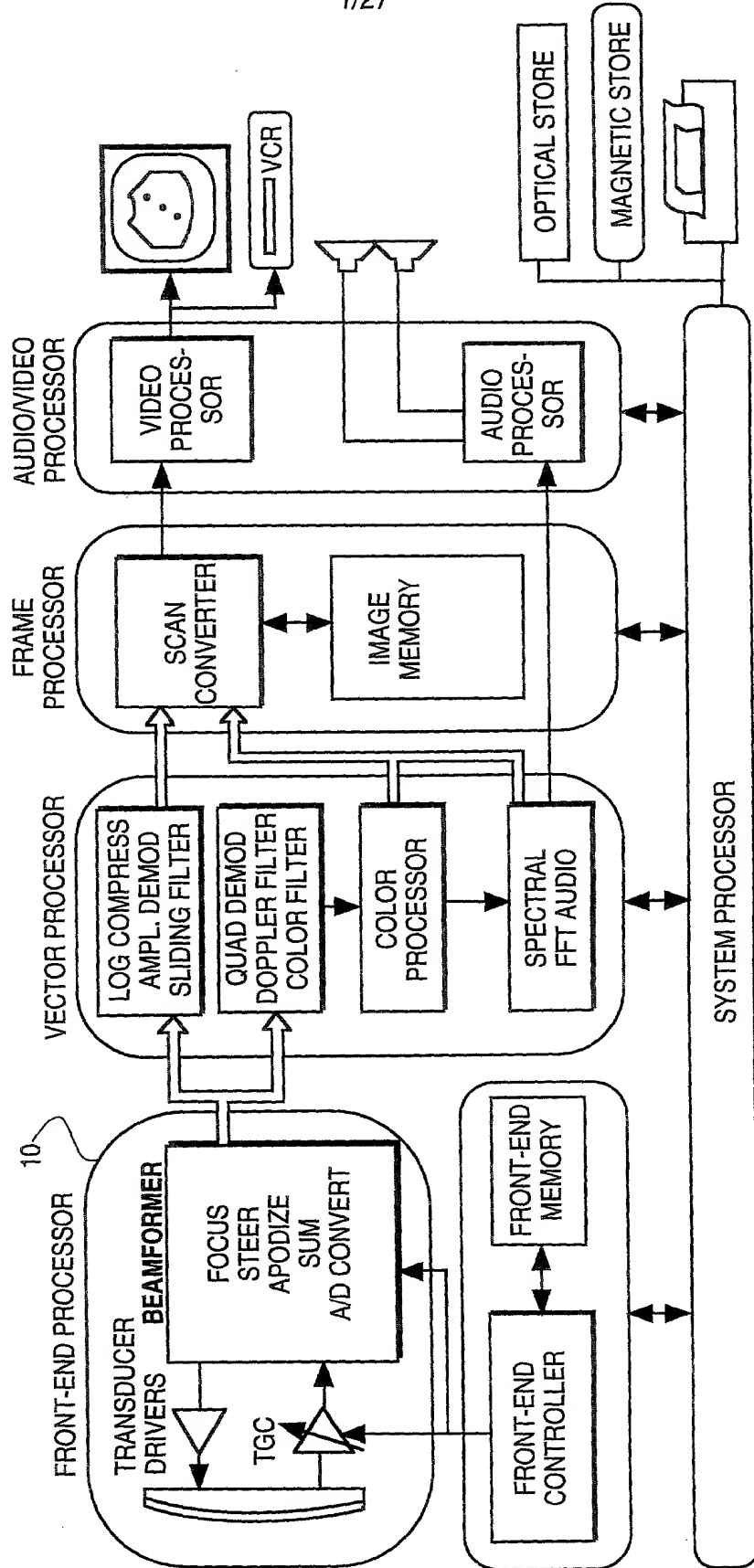


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FIG. 1



ULTRASONIC IMAGING SYSTEM BLOCK DIAGRAM

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FIG. 2
PRIOR ART

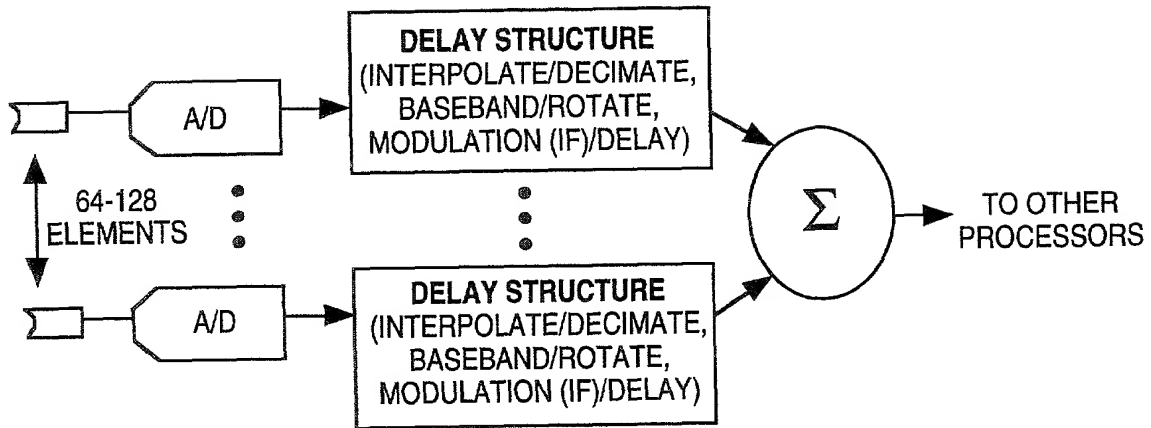


FIG. 3

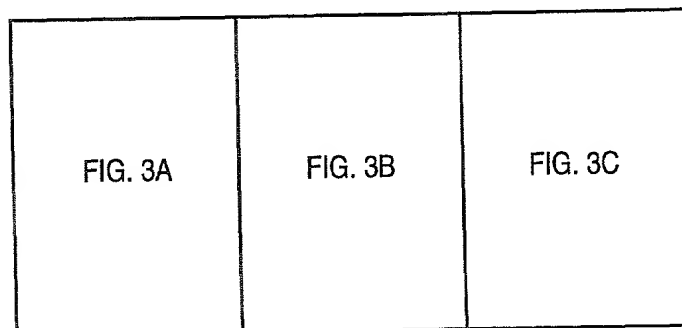
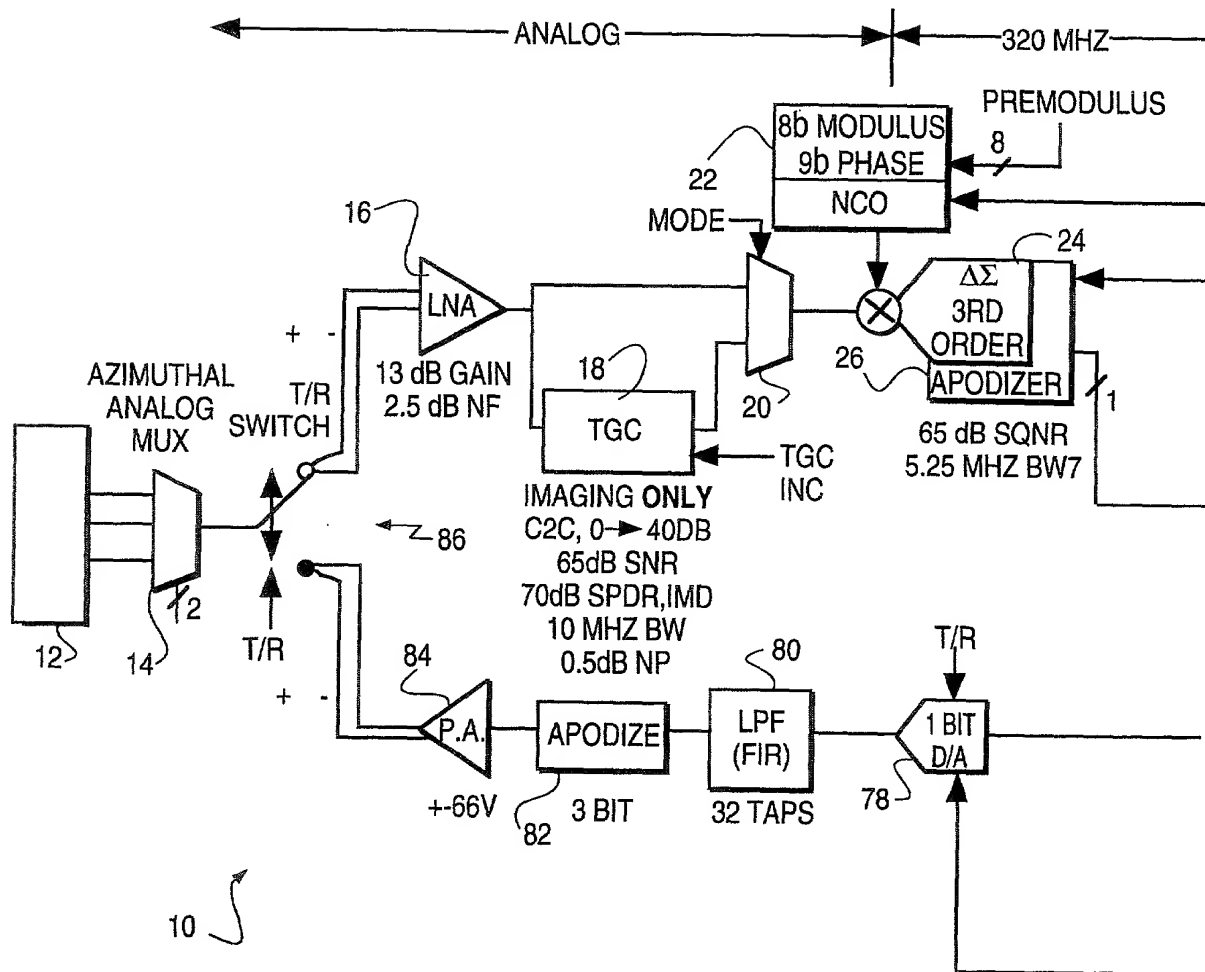
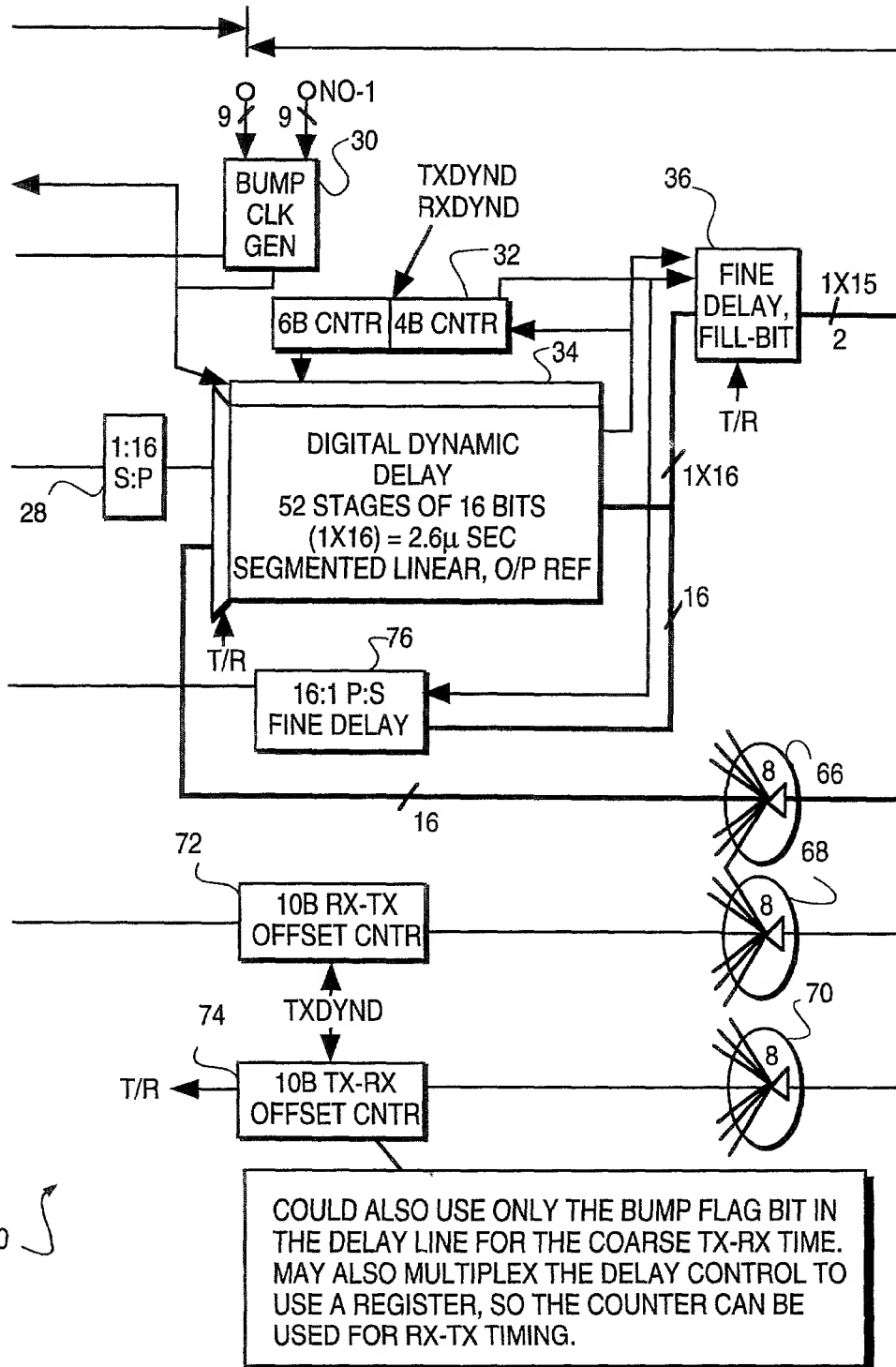


FIG. 3A



| LEGEND: | |
|---------------------|---|
| TEXT SPECIFICATIONS | |
| → TEXT | CONTROL LINES AND CIRCUITS THAT CHANGE DURING ONE BEAM |
| → | CONTROL LINES FIXED DURING A BEAM-DOUBLE BUFFERED SO PRELOAD DURING A BEAM |
| → TEXT | RARELY IF EVER CHANGES-POWER UP/RESET |

FIG. 3B



10 

| Variable | Mean | | SD | | t | | p | |
|---|---------|------|---------|------|---------|------|---------|-------|
| | Control | Case | Control | Case | Control | Case | Control | Case |
| Age | 24.5 | 24.5 | 1.5 | 1.5 | 0.0 | 0.0 | 0.999 | 0.999 |
| Gender | 10 | 10 | 0 | 0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Education | 12.5 | 12.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Occupation | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Marital status | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Religion | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Income | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Health status | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Family size | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Urban/rural | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Employment | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Marital satisfaction | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Family cohesion | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Parenting style | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child development | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child health | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child behavior | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child cognition | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child emotion | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child social skills | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child academic achievement | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child mental health | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child physical health | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child overall health | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child quality of life | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child life satisfaction | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child happiness | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child well-being | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child mental well-being | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child physical well-being | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child overall well-being | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child life expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child health expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child quality of life expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child life satisfaction expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child happiness expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child well-being expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child mental well-being expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child physical well-being expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child overall well-being expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child life expectancy expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child health expectancy expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child quality of life expectancy expectancy | 1.5 | 1.5 | 1.0 | 1.0 | 0.0 | 0.0 | 0.999 | 0.999 |
| Child life | | | | | | | | |



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FIG. 4

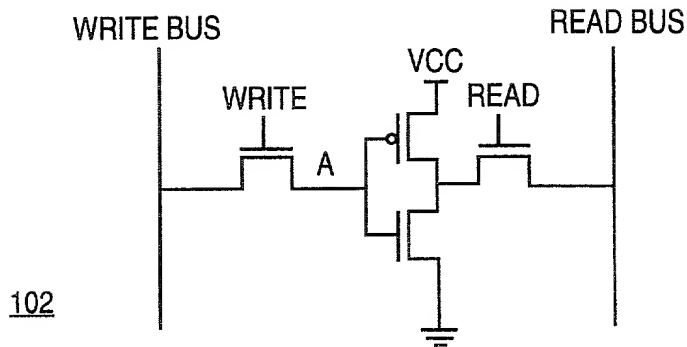


FIG. 5

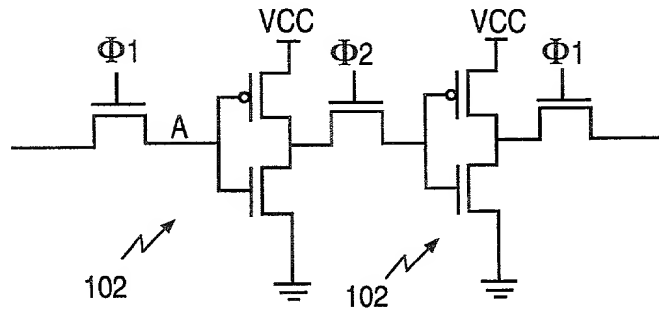
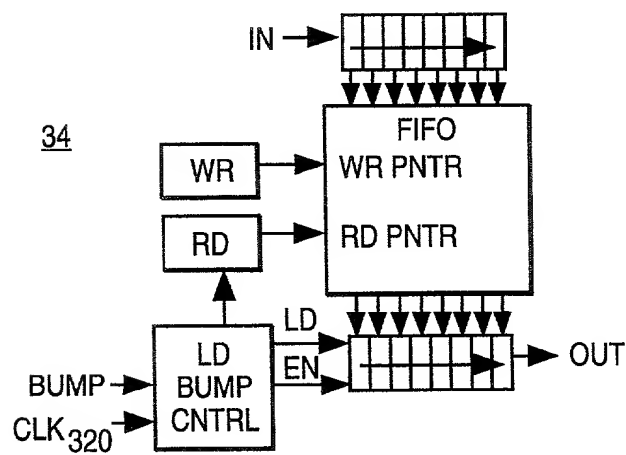


FIG. 6



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FIG. 7A

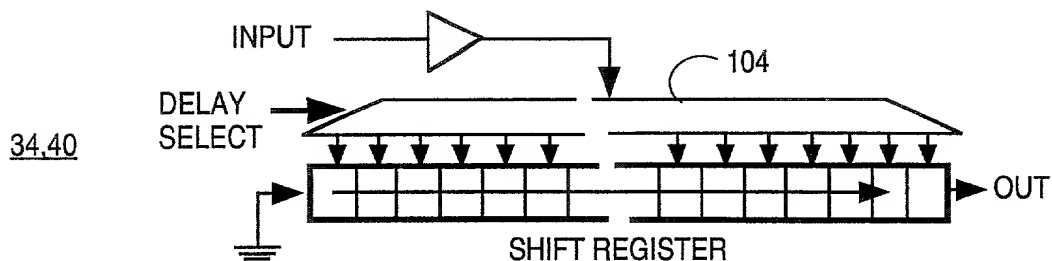


FIG. 7B

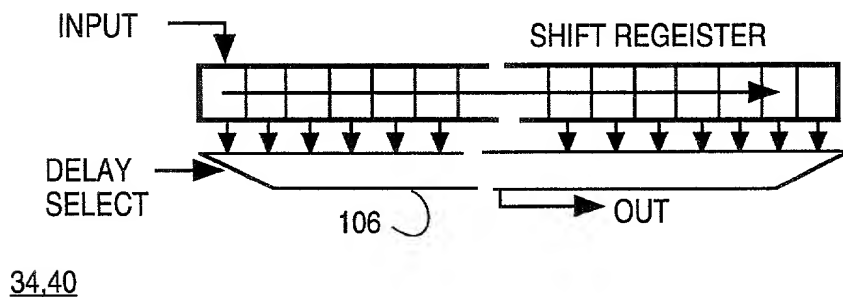
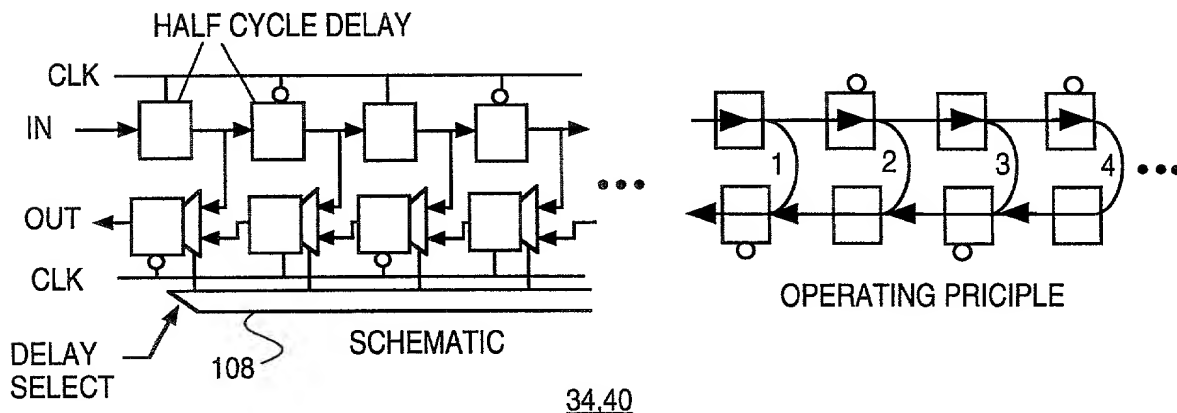


FIG. 8



Abstract The purpose of this study was to determine the effect of a 12-week, 1000 kcal energy deficit diet on the body composition of obese women. The study was a randomized, controlled trial. The subjects were 20 obese women who were randomly assigned to either a 1000 kcal energy deficit diet or a control diet. The subjects were monitored for 12 weeks. The results showed that the subjects on the 1000 kcal energy deficit diet lost significantly more weight and body fat than the subjects on the control diet. The subjects on the 1000 kcal energy deficit diet also lost significantly more lean body mass than the subjects on the control diet. The subjects on the 1000 kcal energy deficit diet also had a significantly higher resting metabolic rate than the subjects on the control diet. The results of this study suggest that a 12-week, 1000 kcal energy deficit diet is an effective method for weight loss and body composition improvement in obese women.

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34,40

[illegible]

FIG. 10B

| A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | B5 | B6 | B7 | B8 | A48 | A15 |
|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |

CLOCK PATTERN

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FIG. 11

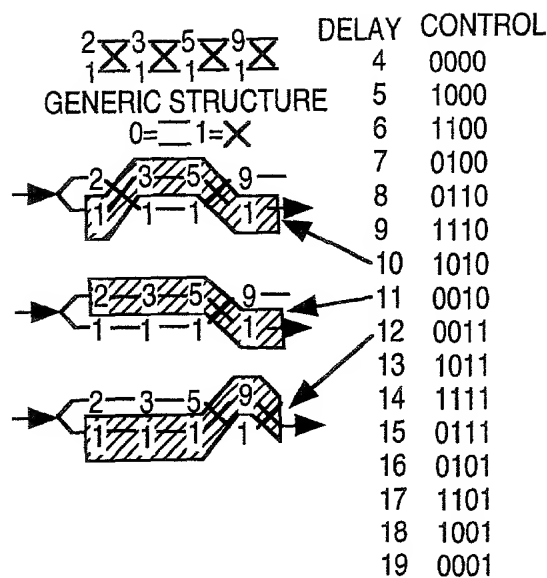


FIG. 12A

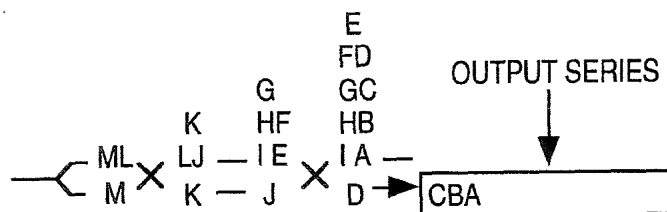


FIG. 12B

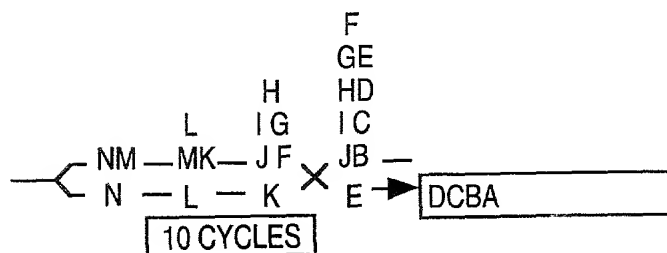


FIG. 12C

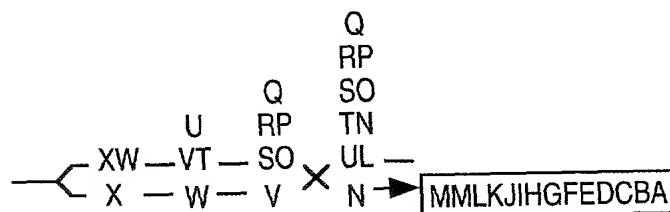
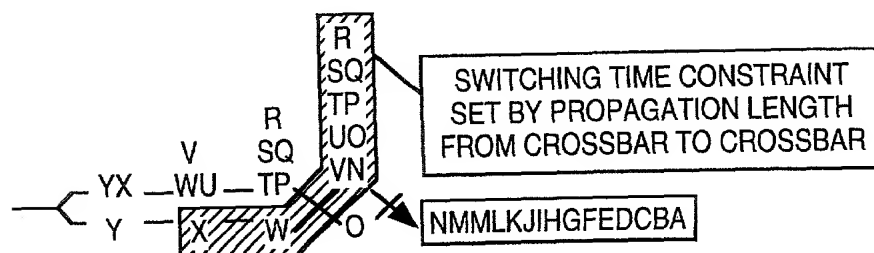


FIG. 12D



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FIG. 13

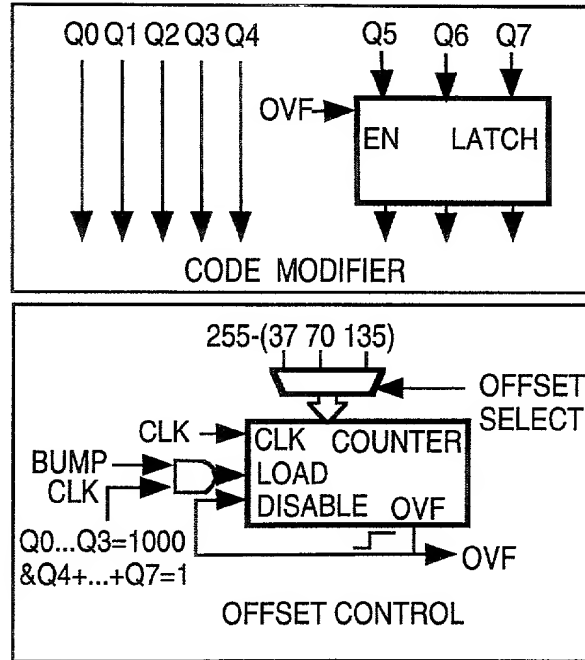
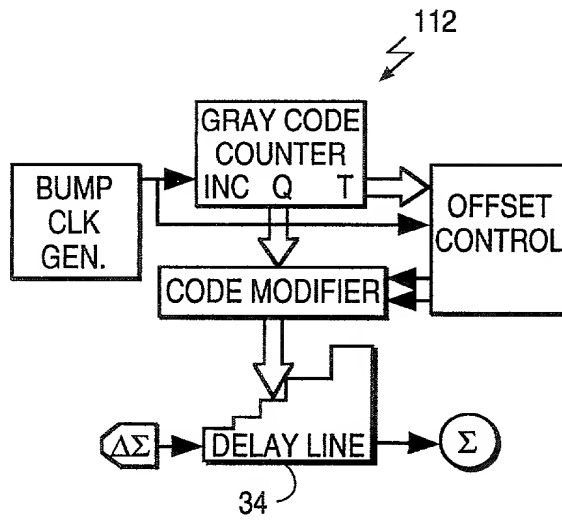


FIG. 14

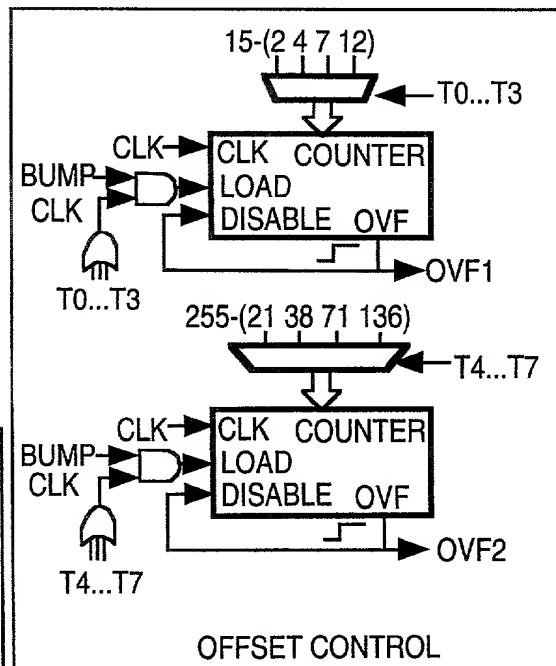
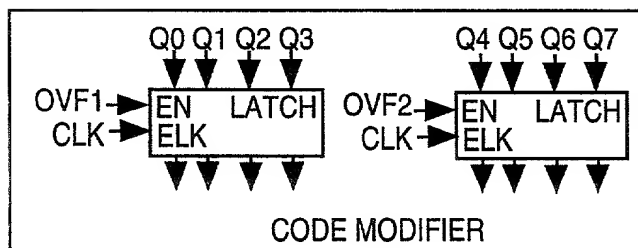
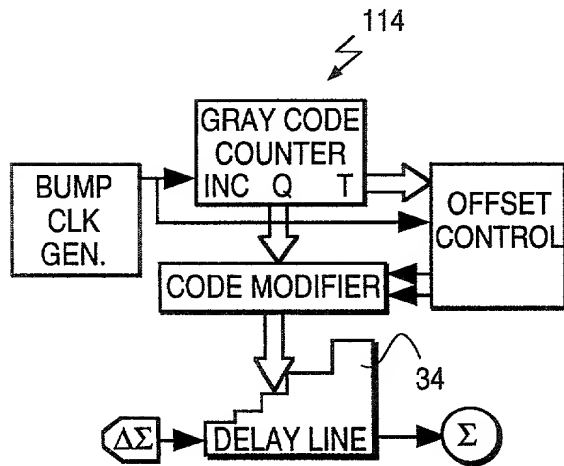


FIG. 13

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FIG. 15

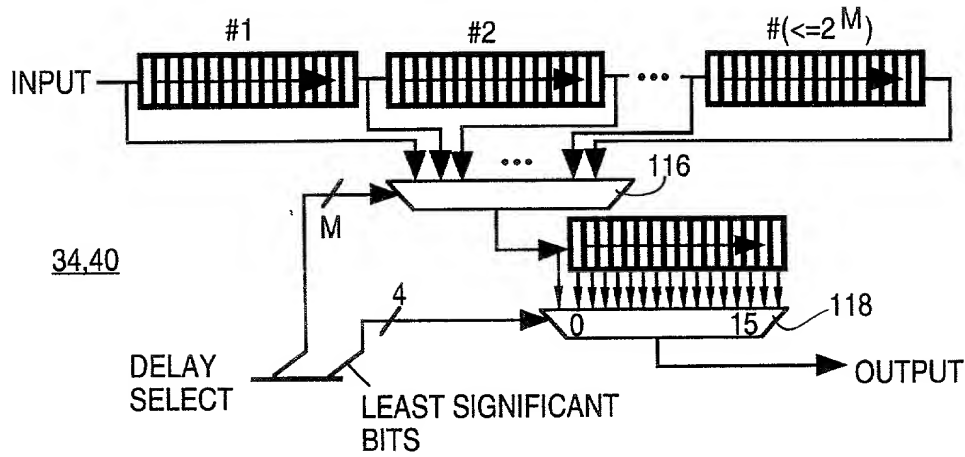
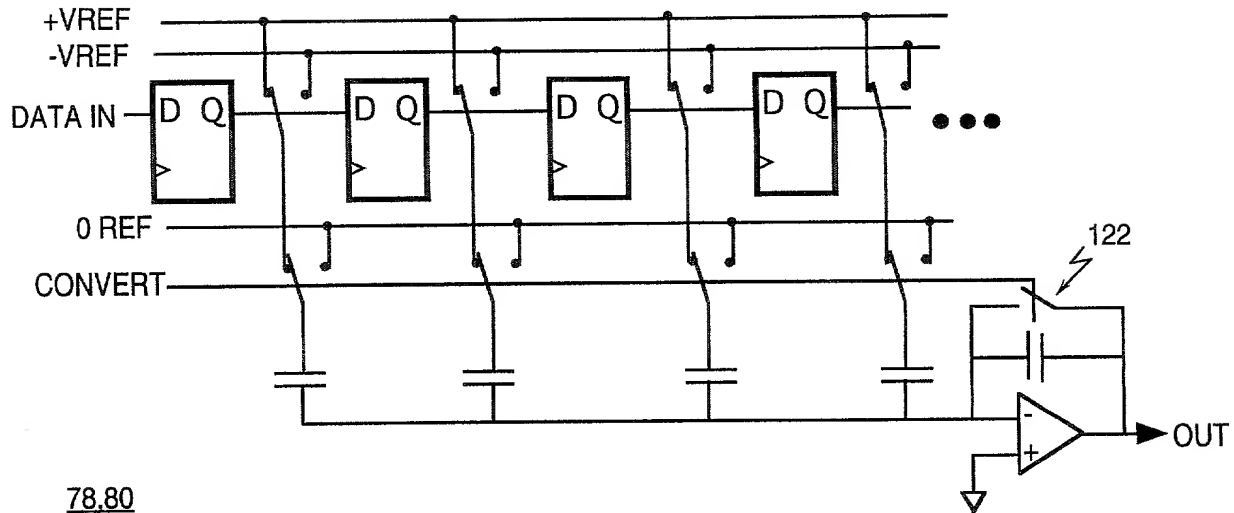


FIG. 16



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FIG. 17

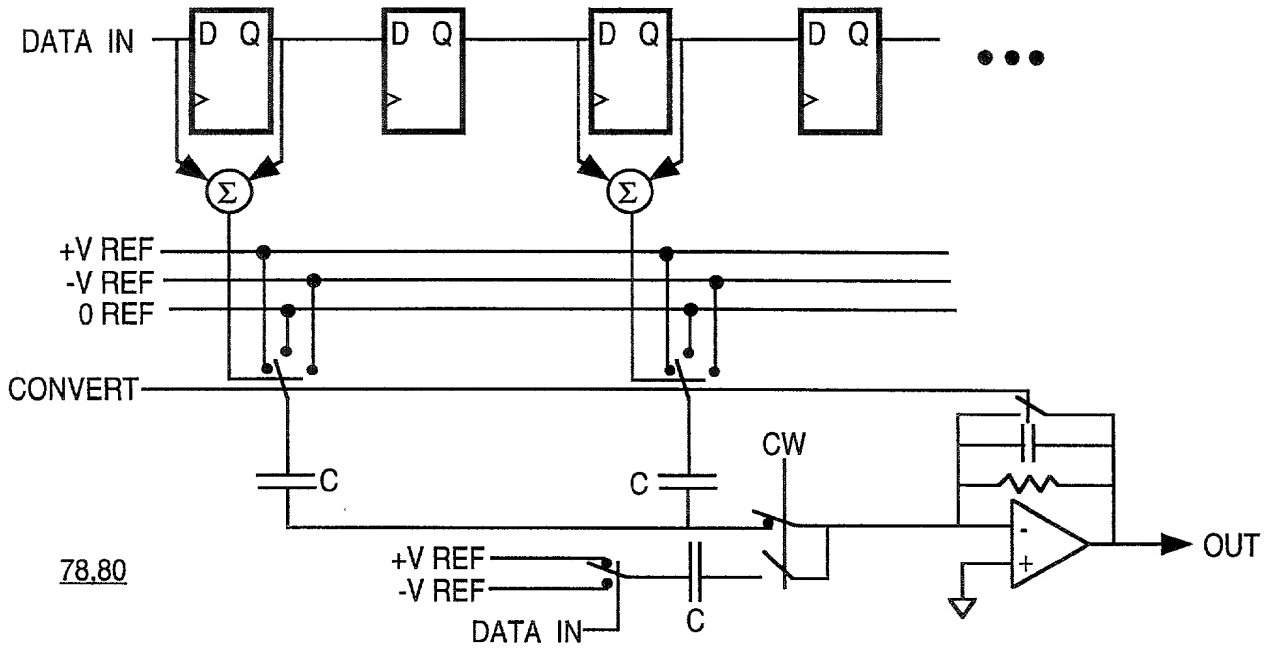
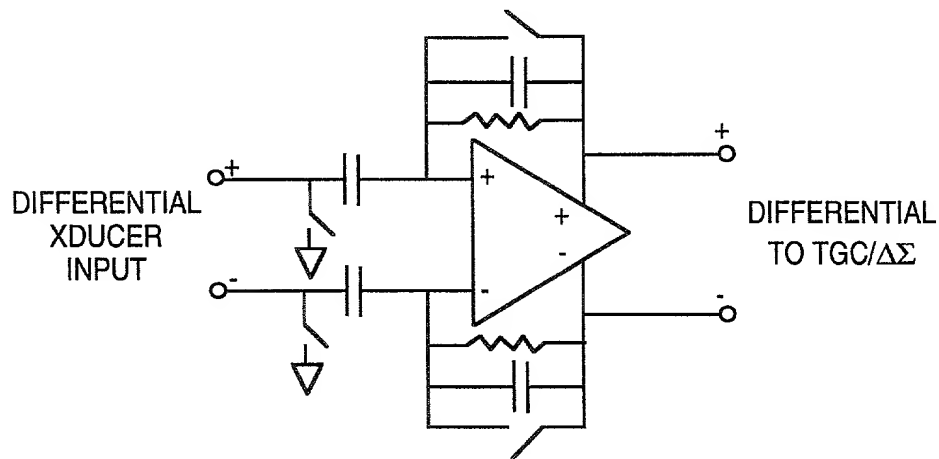
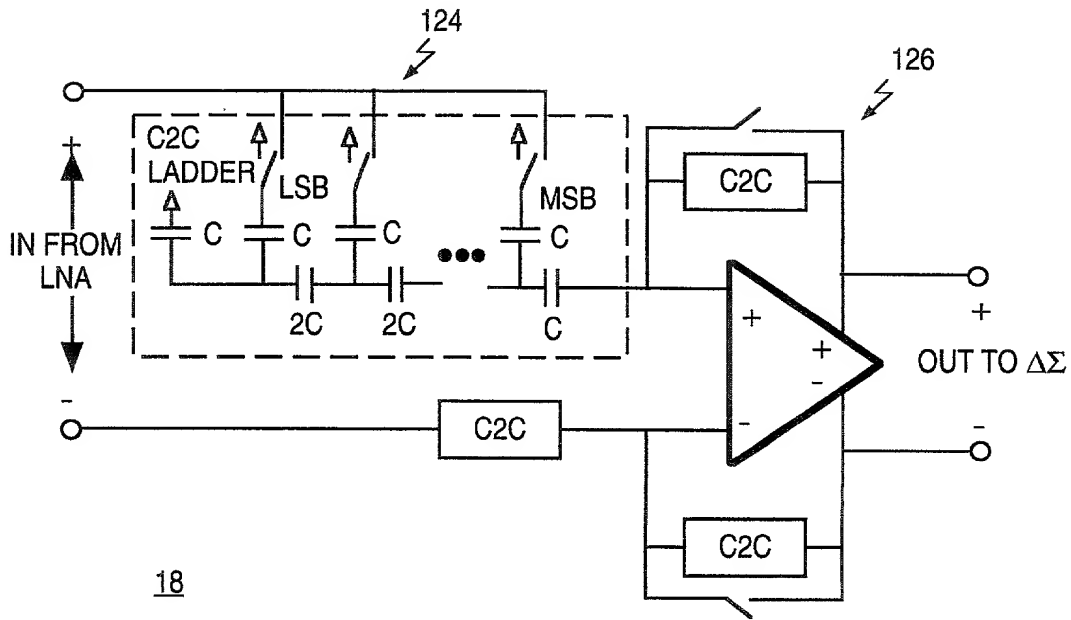


FIG. 18



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FIG. 19



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FIG. 20A

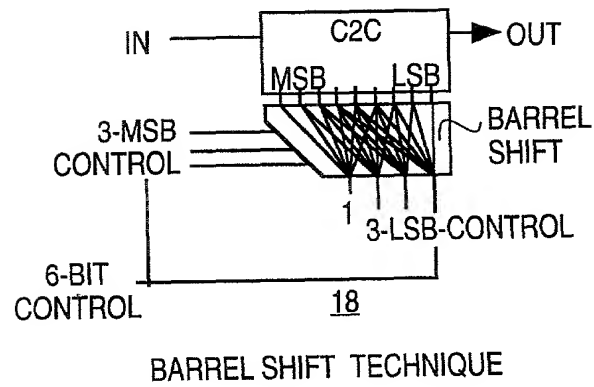


FIG. 20B

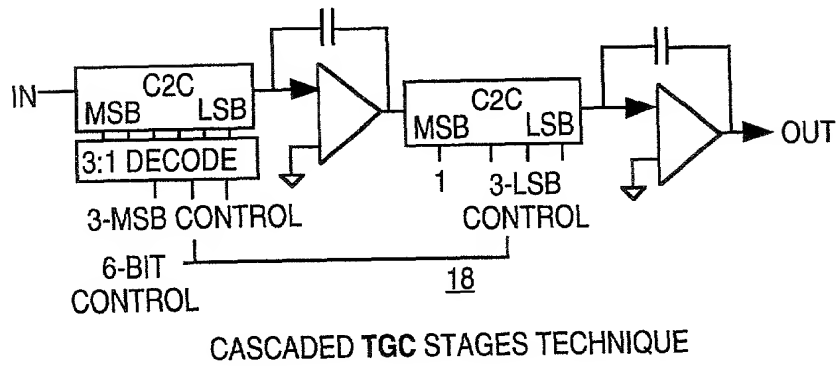
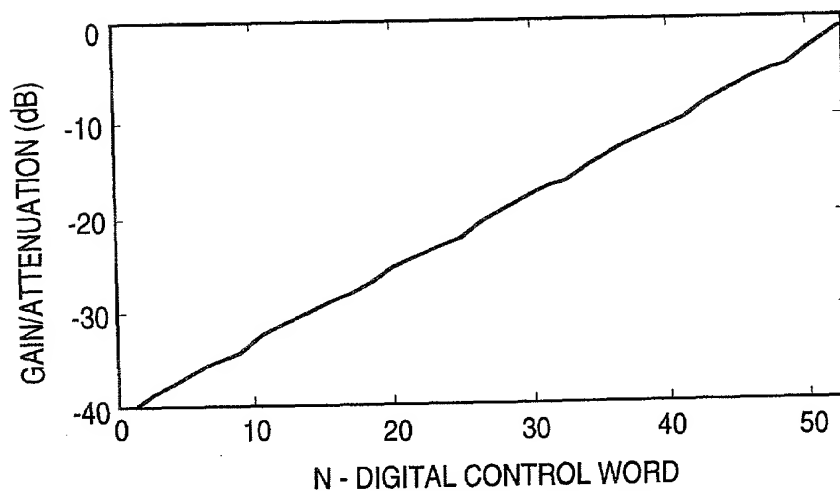


FIG. 21



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FIG. 22

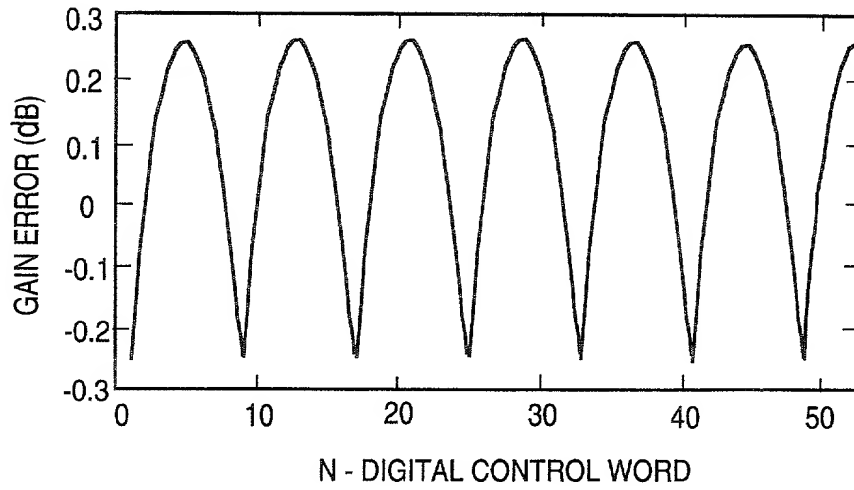
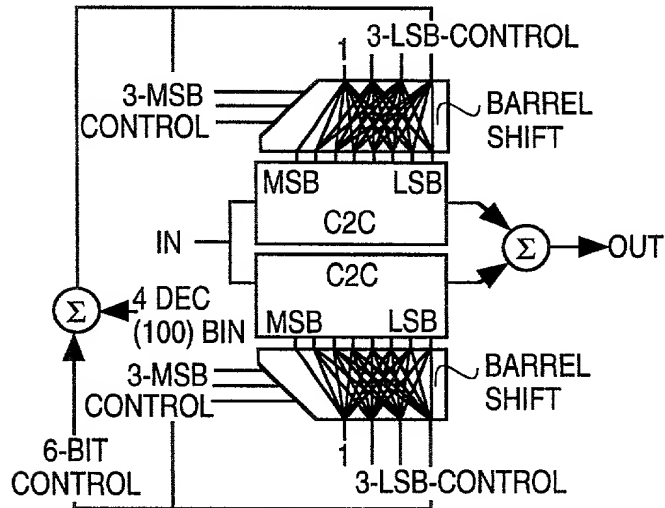


FIG. 23



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FIG. 24

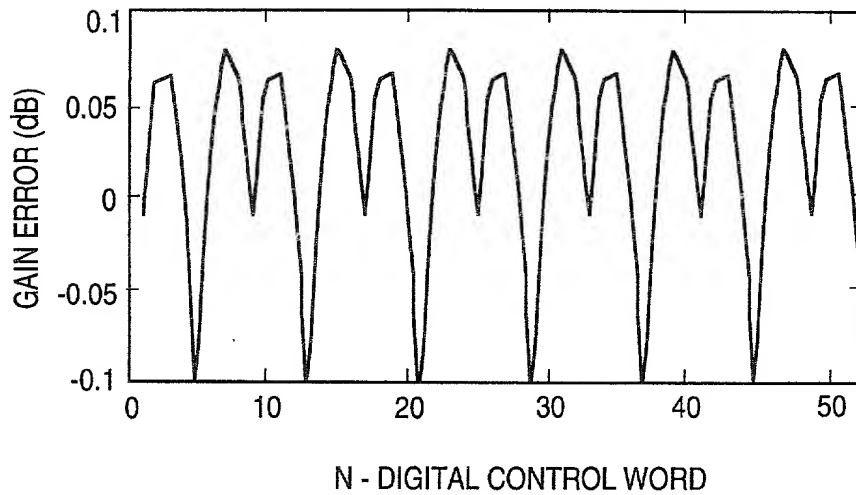
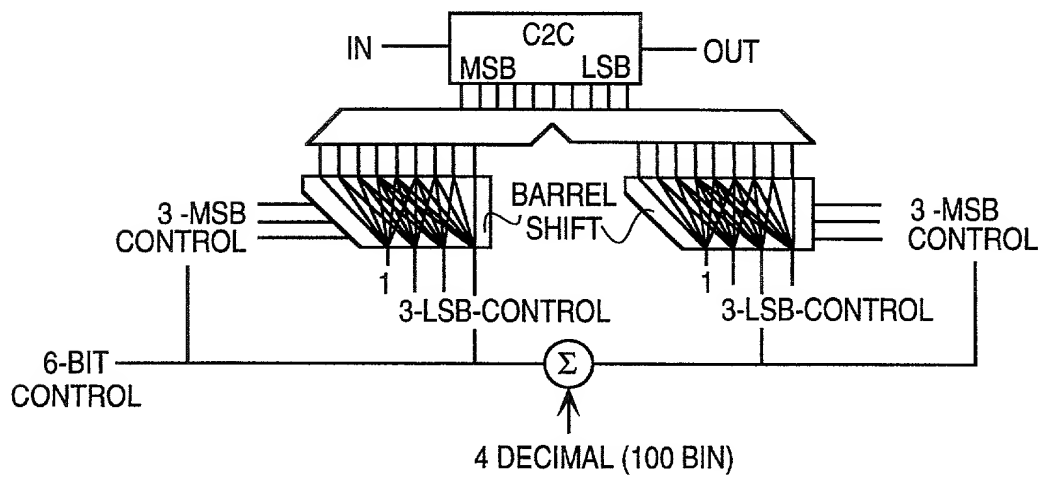


FIG. 25



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FIG. 26A

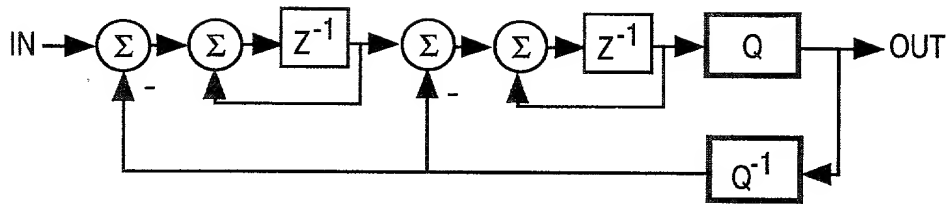


FIG. 26B

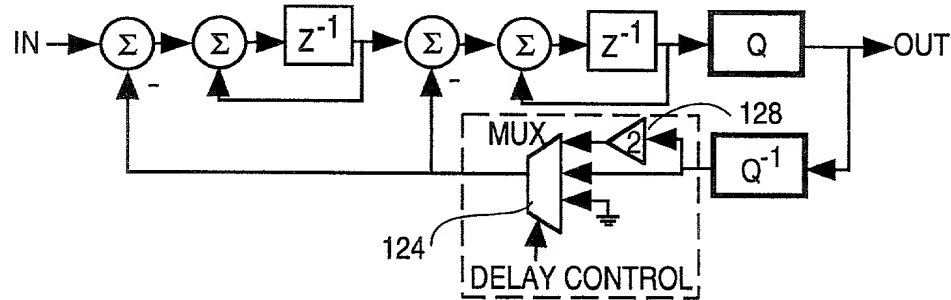


FIG. 26C

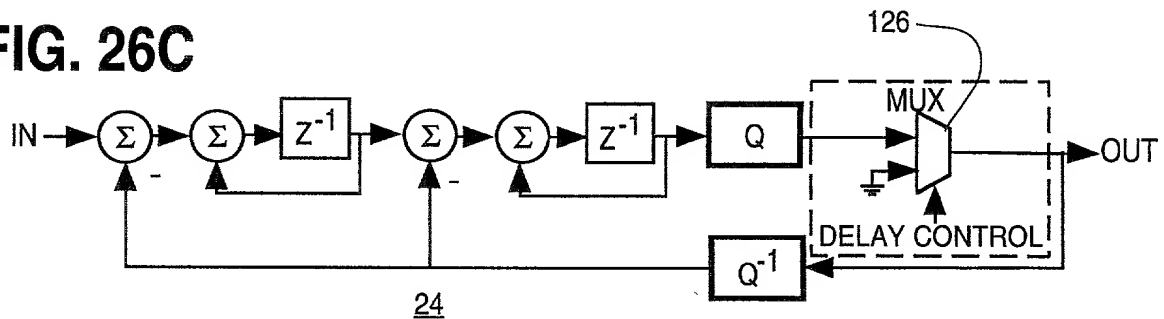
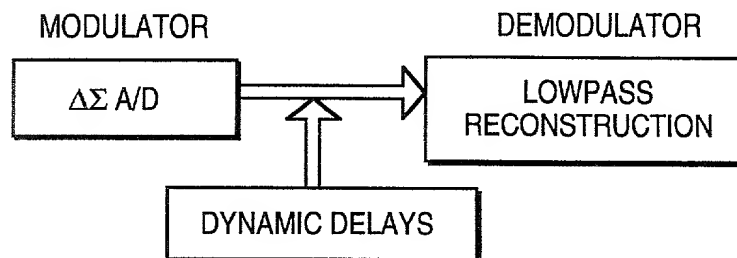


FIG. 27



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FIG. 28

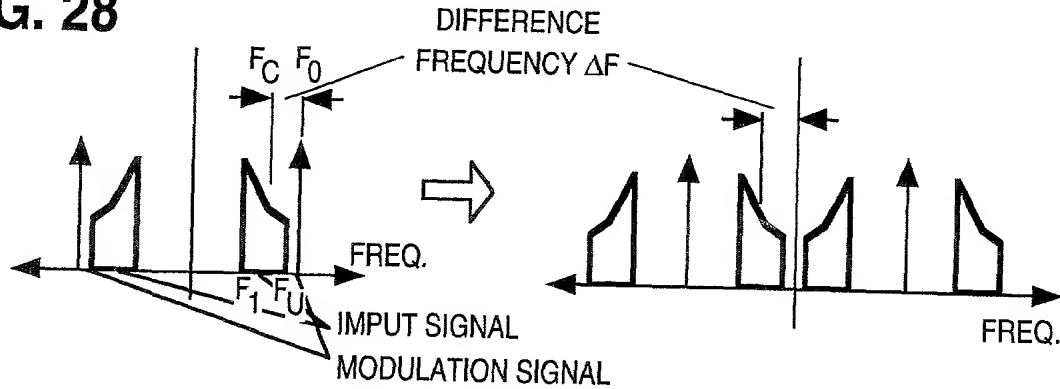


FIG. 29

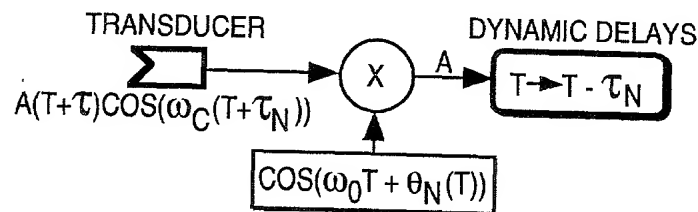


FIG. 30A

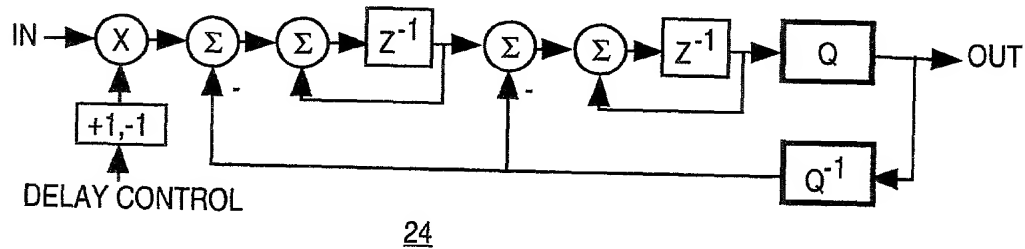
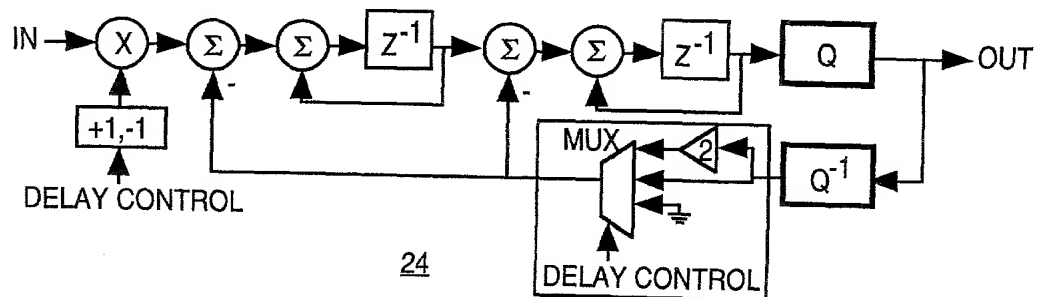


FIG. 30B



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FIG. 31

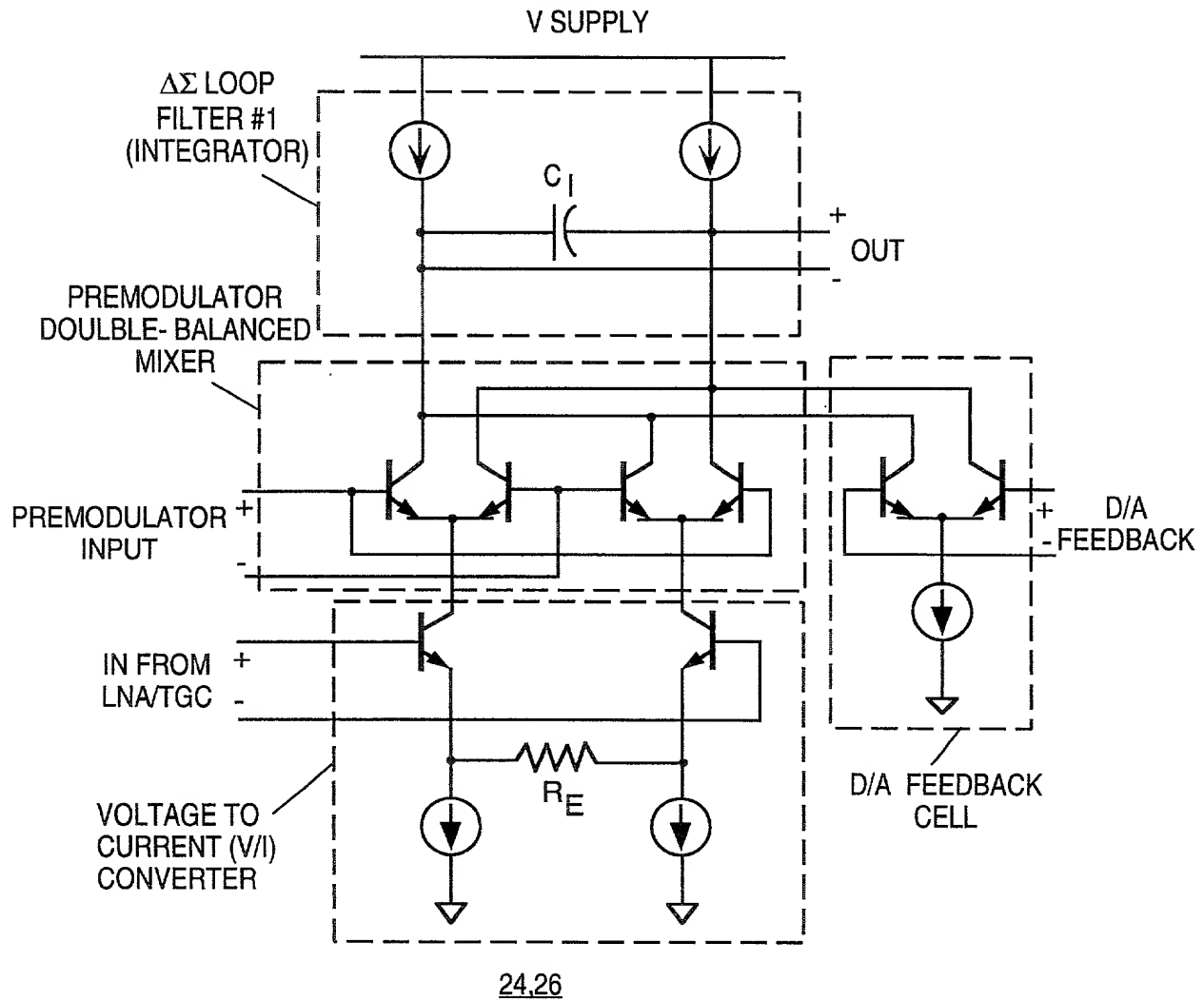
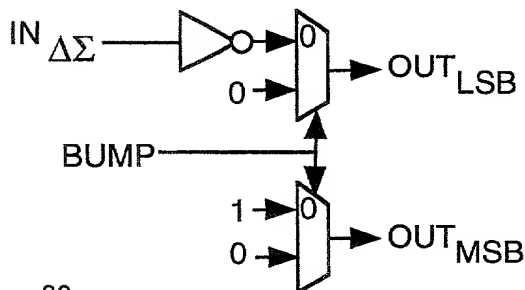


FIG. 32



| TRUTH TABLE | | |
|--------------------|------------|--------|
| VALUE | IN(BINARY) | OUTPUT |
| +1 | 1 | 10 |
| -1 | 0 | 11 |
| ZERO INSERT (BUMP) | | 00 |

FIG. 33A

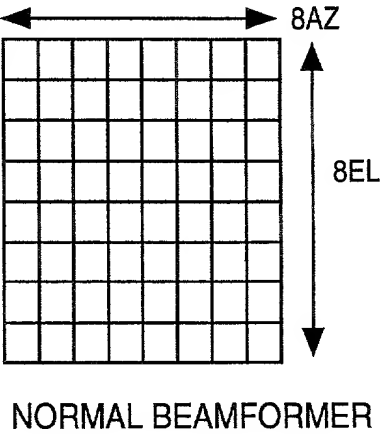
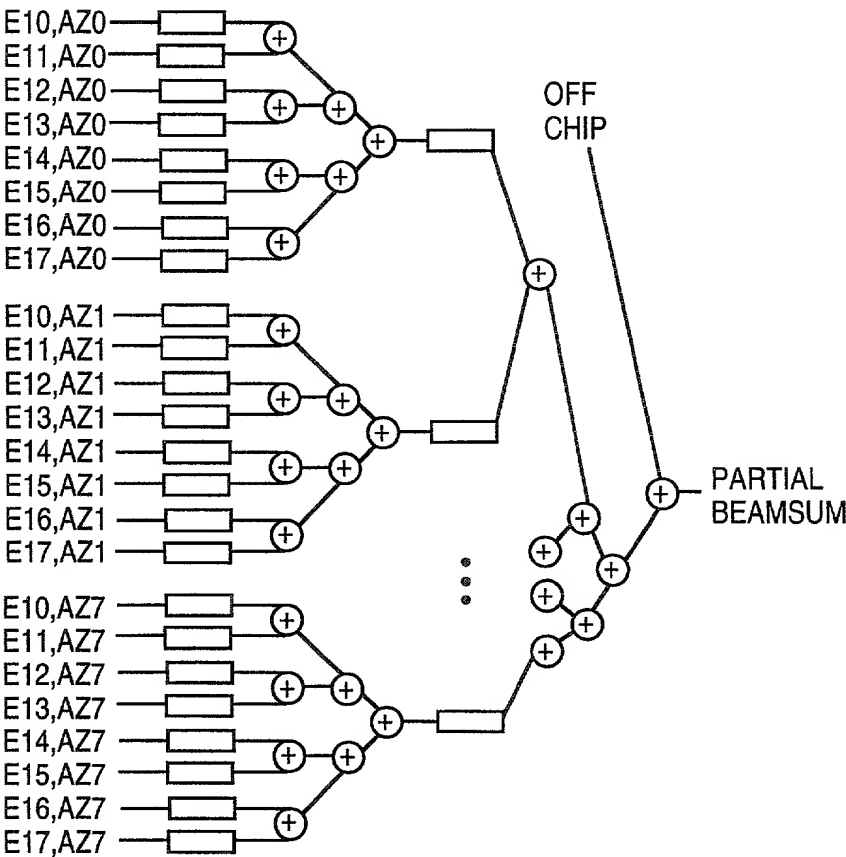
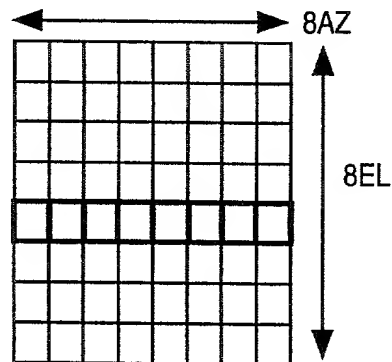
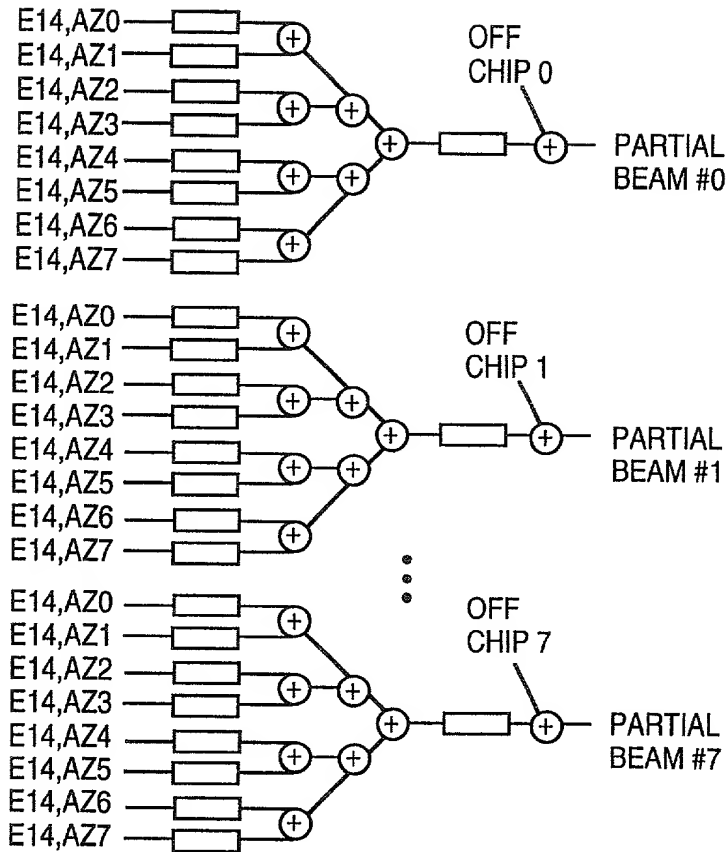


FIG. 33B

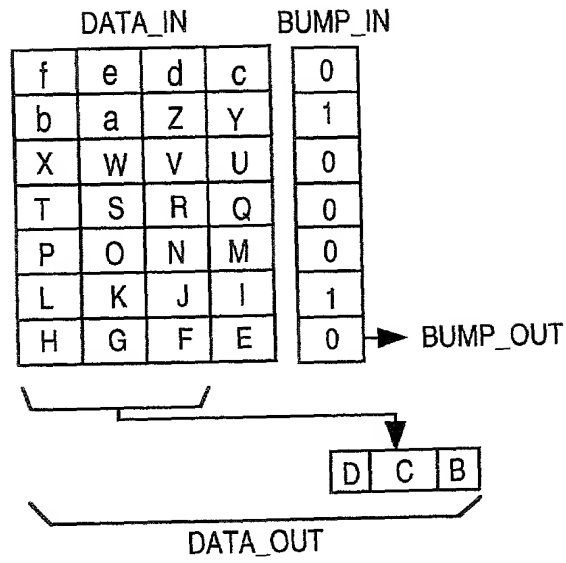


MULTIBEAM BEAMFORMER

FIG. 33B

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FIG. 34



34.40

FIG. 35A

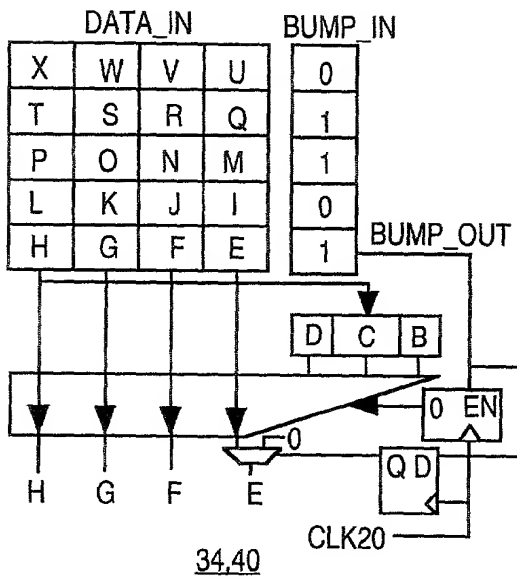


FIG. 35B

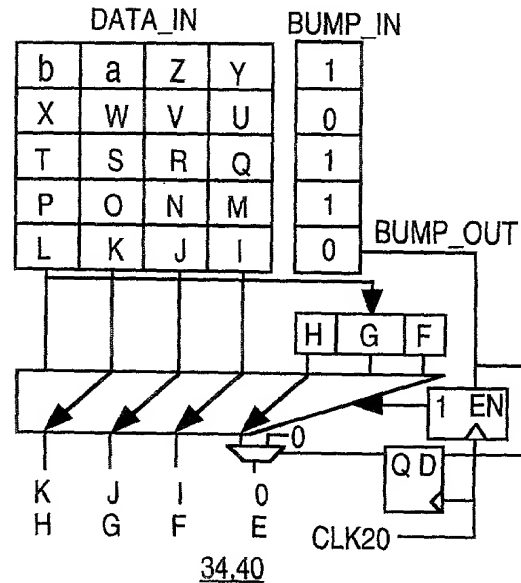
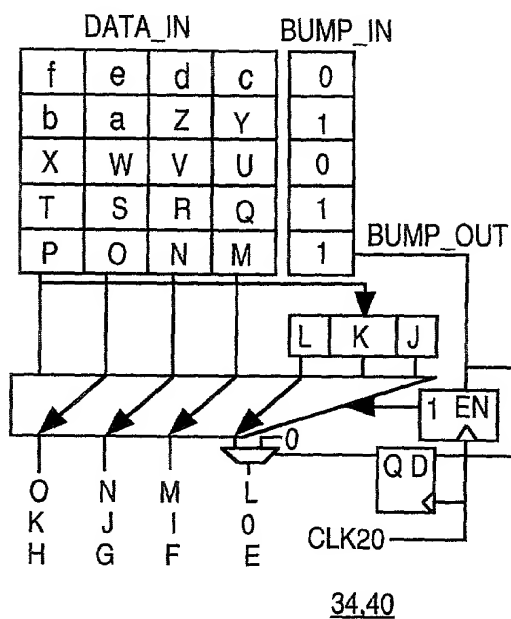
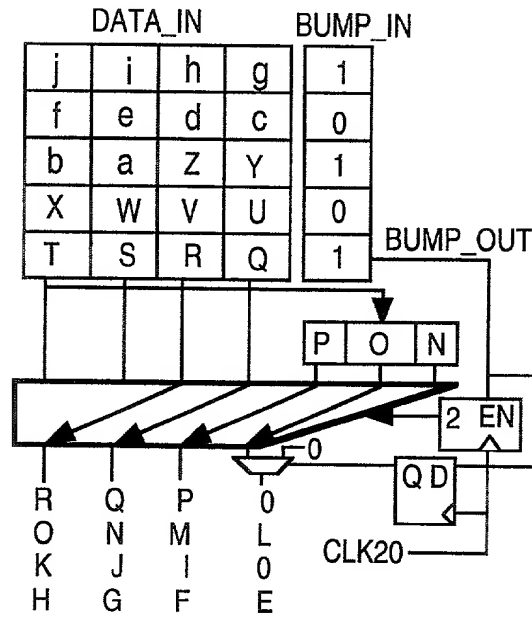


FIG. 35C



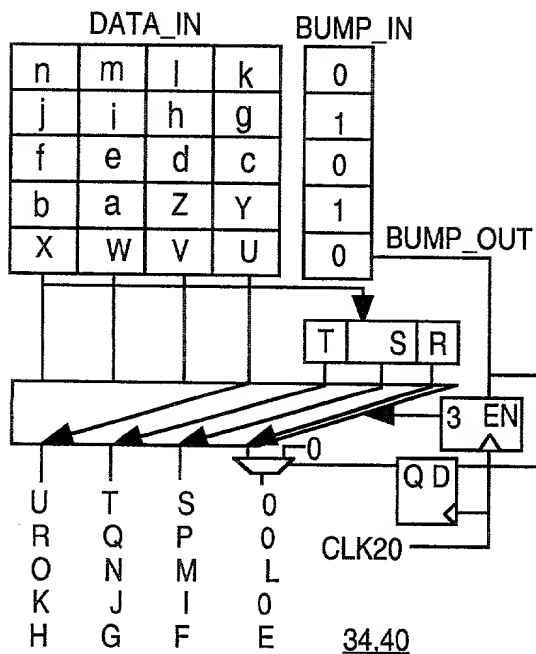
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FIG. 36A



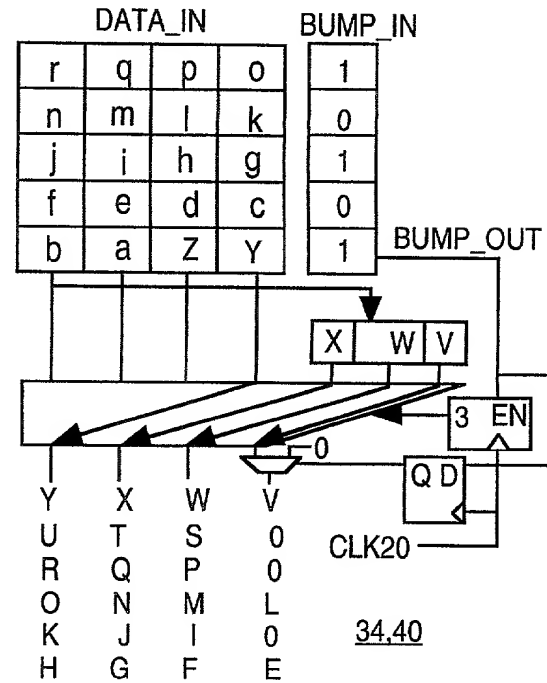
34.40

FIG. 36B



34.40

FIG. 36C



34.40

FIG. 36A

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FIG. 37A

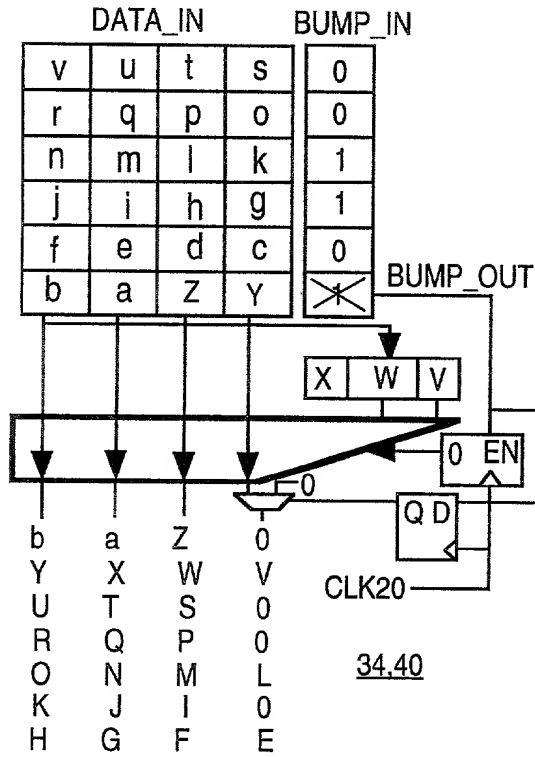


FIG. 37B

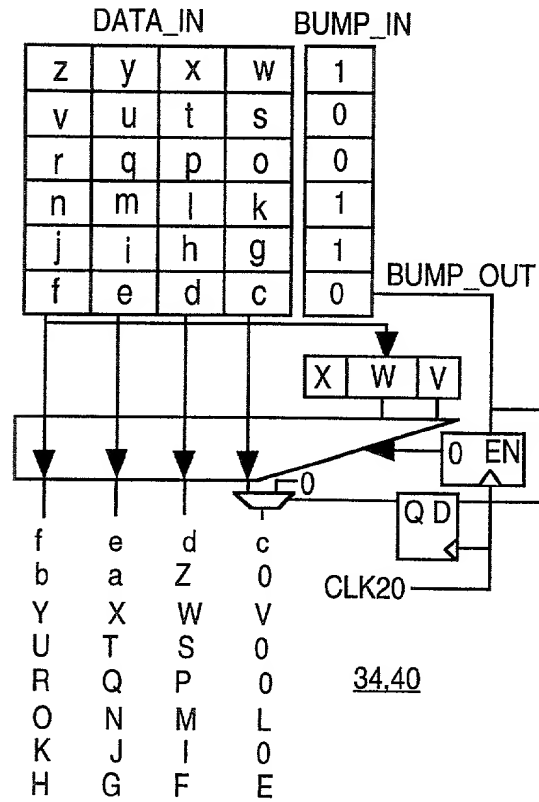


FIG. 37A

FIG. 38A

UNSIGNED:

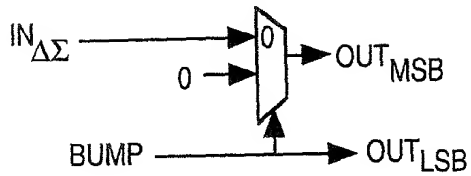


FIG. 38B

SIGNED:

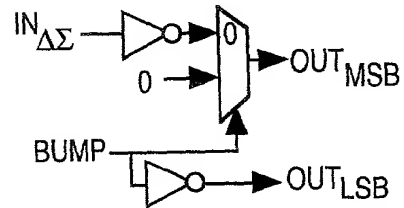


FIG. 38C

UNSIGNED:

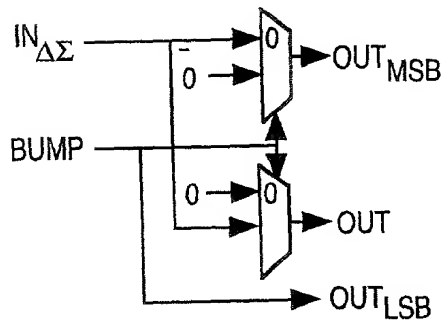
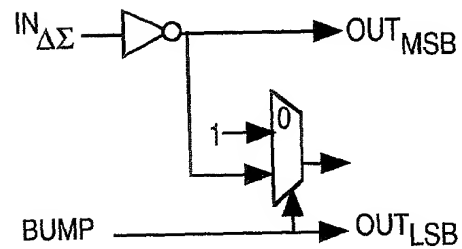


FIG. 38D

SIGNED:

[illegible]

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FIG. 39

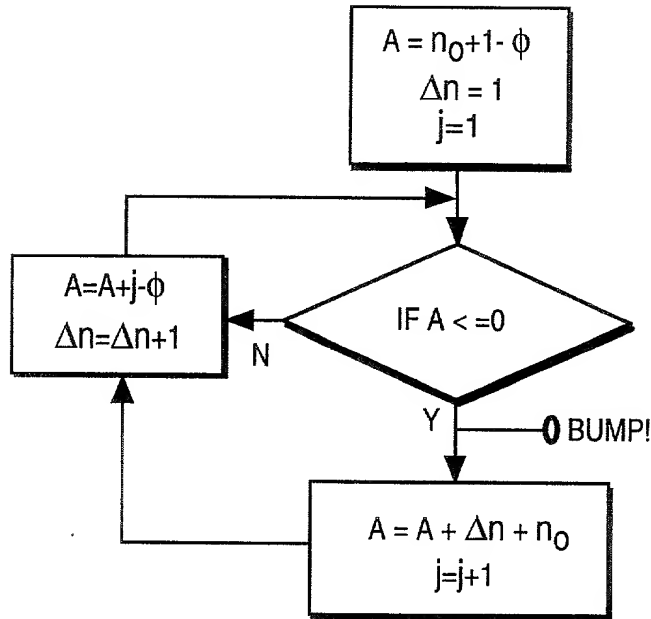


FIG. 40

